

Digital Image Sensor with Improved Color Reproduction

William R. Bidermann

David Xiao Dong Yang

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ABSTRACT OF THE DISCLOSURE

10 An image sensor includes a sensor array including a two-dimensional array of pixel elements. The array of pixel elements includes a first group of photodetectors having a first sensitivity level and a second group of photodetectors having a second sensitivity level. The sensor array outputs digital signals as pixel data representing an image of a scene. In operation, the first group of photodetectors generates the output signals after a first exposure time and
15 the second group of photodetectors generates the output signals after a second exposure time, where the first exposure time and the second exposure time are within a snapshot of the scene and the first exposure time is different than the second exposure time. When thus
20 operated, the image sensor of the present invention provides improved color reproduction capability and improved signal to noise ratio, especially for the less sensitive photosensitive elements.